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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/736,671 | 12/17/2003 | Tsuyoshi Yamaguchi | 117552 | 4126 |

25944 7590 06/22/2004

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| EXAMINER | |
|---|---|
| NGUYEN, TRAN N | |
| ART UNIT | PAPER NUMBER |
| 2834 | |

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/736,671 | YAMAGUCHI ET AL. | |
| | Examiner | Art Unit | |
| | Tran N. Nguyen | 2834 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-3,5,7-9 and 11-18* is/are rejected.

7)☐ Claim(s) *4,6 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 11, 16 and 18** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Rieber et al (US 5,214,839).**

**Rieber** discloses (figs 2 and 5) a wedge for a stator core fitted into a slot for inserting a coil arranged at an inner circumferential side of a ring-shape stator core such that the wedge closes an inner circumferential opening portion of the slot,

the slot having a slot opening portion having a reduced gap at an inner circumferential end of the slot, and a general portion having an increased gap compared with the slot opening portion at an outer circumferential side,

the wedge having a wider portion (115) disposed in the general portion and a convex portion (117) having a smaller lateral size (113) than that of the wider portion, which is arranged protrusively from the wider portion and disposed in the slot opening portion, wherein:

at least one of the wider portion and the convex portion, in this case the wilder portion, has a rounded profile (120) at least one longitudinal end of the wedge and an end corner of the at least one of the wider portion and the convex portion is finished in a curved pattern, and

the cross-section of the wedge is a "T" shape.

3. **Claims 1-2, 7, 11 and 16** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Watanabe et al (US 4,761,581).**

**Watanabe** discloses (figs 1-2) a wedge for a magnetic core fitted into a slot for inserting a coil, the slot having a slot opening portion and a general portion, the wedge comprising:

a substantially rigid, elongated body;

a wider portion disposed along a length of the body;

and a convex portion disposed opposite the wider portion, the convex portion having a smaller lateral size than that of the wider portion, wherein:

the convex portion is arranged protrusively from the wider portion;

the wedge is formed by integrally molding the wider portion and the convex portion using symthetic resin (col. 2, lines 27-30).

at least one of the wider portion and the convex portion, in this case the wilder portion, has a rounded profile (120) at least one longitudinal end of the wedge and an end corner of the at least one of the wider portion and the convex portion is finished in a curved pattern, and

the cross-section of the wedge is a "T" shape.

4. **Claims 1, 8, 17 and 18** are rejected under 35 U.S.C. 102(b) as being fully anticipated by **Tanaka (JP 6-253483).**

**Tanaka** discloses (figs 3a-b, 10a-b) a wedge for a magnetic core fitted into a slot for inserting a coil, the slot having a slot opening portion and a general portion, wherein: the slot opening portion having a reduced gap at an inner circumferential end of the slot, and a general portion having an increased gap compared with the slot opening portion at an outer circumferential side,

the wedge (60, 70) (figs 3a, 10a) comprising:

a substantially rigid, elongated body;

a wider portion disposed along a length of the body;

and a convex portion disposed opposite the wider portion, the convex portion having a smaller lateral size than that of the wider portion, wherein:

the convex portion is arranged protrusively from the wider portion;

both figs 3a and 10a show the wilder portion has a concave portion formed on the surface opposite to a surface of the convex portion, and

the cross-section of the wedge is a "Y" shape.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 3, 5, 8-9, 12-15 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over either Rieber or Watanabe, as applied against the base claims, in view of Takana.

**Regarding Claims 3, 5, 8-9 and 17,** each, as stand-alone ref, Rieber or Watanabe discloses the claimed invention, except for the limitations of the concave portion and the wedge has a "Y" shape cross-section.

**Takana**, however, teaches a Y-shape cross-sectional wedge (70) having a concave portion (10a) for the purpose of increasing winding space within the slot and reducing high frequency sound thereof.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the wedge by configuring the wedge with the concave portion and the wedge has a "Y" shape cross-section, as taught by Takana. Doing so would provide the core with slot closing wedge that not only increase winding space within the slots but also reduce generated noise.

**Regarding Claims 12-15** reciting the following limitations:

(a) the wedge with a lateral dimension of the wider portion is smaller than a lateral dimension of the slot in the stator core to form a predetermined clearance between the wider portion and an inner wall surface of the general slot, and wherein the clearance is smaller than a size of inner

wall surface forming the slot opening portion in the stator core projected from an inner wall surface forming the general portion, and the clearance is smaller than a diameter of an electrical wire forming a coil to be inserted into the slot.

Those skilled in the art would understand that the wedge must be formed to be smaller than the distant dimension between the inner wall surfaces of the slot opening portion. This creates a necessary predetermined clearance with respect to the slot's opening portion into which the wedge is fixedly inserted. If the wedge were configure with dimension is greater than the distance between the inner wall surfaces of the slot opening portion, it would not be able for the wedge to be inserted within the slot's opening portion in order for closing and retaining the winding. Also, if the clearance were greater than the diameter of the winding wire, there would be highly possibility that wire strands may fall out from the slot through the clearance, which has dimension greater than the diameter of the wire.

Therefore, it is obvious to an artisan who has the necessary mechanical skills in the art to determined the appropriate clearance between the wedge and the slot opening portion in order to fixedly secure the wedge therein and insure that the winding wire would not able to fall out from the slot closing wedge.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to configure the wedge with a predetermined clearance that is smaller than a size of inner wall surface forming the slot opening portion in the stator core projected from an inner wall surface forming the general portion, and the clearance is smaller than a diameter of an electrical wire forming a coil to be inserted into the slot. Doing so would fixedly secure the wedge therein and insure that the winding wire would not able to fall out from the slot closing wedge. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges, in this case the predetermined clearance, involves only routine skill in the art. ***In re Aller, 105 USPQ 233.***

### *Allowable Subject Matter*

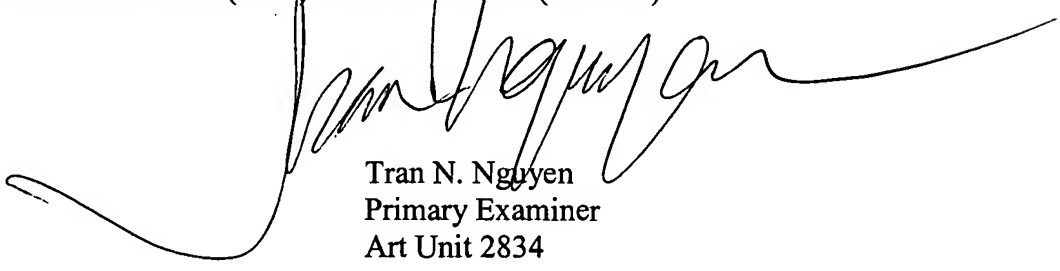
**Claims 4,6, and 10** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tran N. Nguyen
Primary Examiner
Art Unit 2834